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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			QUIETT, CARRAMAH J	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/26/2006 has been entered.

Response to Amendment

2. The amendment(s), filed on 01/26/2006, have been entered and made of record. Claims 1-6, 8-16, 18-20, and 23-28 are pending, claims 4-6, 9-11, and 19 have been withdrawn, claims 7, 17, and 21-22 are canceled.

Response to Arguments

3. Applicant's arguments with respect to claims 1-3, 8, 12-13 and 23-24 have been considered but are moot in view of the new ground(s) of rejection.

4. Applicant's arguments filed 01/26/2006 have been fully considered but they are not persuasive.

With respect to claim 14, the Applicant asserts that the following limitation is not taught or suggested by the combination:

a lens installed on the housing, moveable between a first position and a second position for inputting light from the front of the housing in the first position and from the rear of the housing in the second position.

Art Unit: 2622

The Examiner respectfully disagrees. Saari discloses a lens (32) installed in the housing, moveable between a first position and a second position, for inputting light from the front of the housing in the first position and from the rear of the housing in the second position. Please read col. 4, lines 41-46; col. 5, lines 27-47. As illustrated in fig. 3, Motta discloses a lens (25/26) installed on a housing, which is moveable between a first position and a second position (fig. 3; col. 3, lines 42-57). Modifying Saari's digital image capturing apparatus with a lens installed on the housing, moveable between a first position and a second position provides a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 8, 12-13, 23-24, and 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Kuroda (U.S. Pat. App. Pub. 2003/0036365) and Belliveau (U.S. Pat. App. Pub. 2004/0114043).

For **claim 1**, Saari discloses (figs. 1-3 and 5) a digital image capturing apparatus (10) comprising:

a housing (12)/(col. 4, lines 21-24);

a first hole (38) installed on the front side of the housing for inputting light from the front, the first hole (inherently) having a first central axis (col. 4, lines 46-49);

Art Unit: 2622

a second hole (50) installed on the rear side of the housing for inputting light from the rear (col. 5, lines 38-41);

a reflector module (116) installed in the housing for reflecting the light input from the first hole or* the second hole (col. 6, lines 10-18), the reflector module (fig. 10) comprises:

a pedestal turning (86) on a second axis (col. 7, lines 22-36);

a reflector (84) installed on a side of the pedestal for reflecting the light from the first hole or the second hole to the photosensor (col. 7, lines 22-36 and fig. 5);

a photosensor (fig. 10, ref. 72) installed in the housing for sensing the light from the reflector module (col. 7, lines 22-27); and

an image generating module (inherently) installed in the housing for generating an image according to the light sensed by the photosensor (col. 5, lines 27-34 and 40-47). Saari inherently teaches an image generating module installed in the housing because in photography mode a captured image can be displayed on the screen (fig. 1, ref. 16).

Saari also teaches that image capturing apparatus (10) in fig. 2 has a camera assembly that is rotated to a position that captures the image of the user as the user holds the apparatus. However, Saari does not expressly teach the second hole having a central axis substantially parallel with the first central axis. In a similar field of endeavor, Kuroda teaches a second hole (fig. 7, ref. 10a) having a central axis substantially parallel (inherently) with the first central axis (page 3, pgphs. 36-37). In light of the teaching of Kuroda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a second hole having a central axis substantially parallel with the first

Art Unit: 2622

central axis in order to provide an apparatus that is capable of capturing images on a front side and a rear side of the apparatus (Kuroda, page 1, pgph. 8).

Additionally, Saari does not disclose a strobe installed on the pedestal and turnable with the pedestal allowing the strobe to be aimed substantially parallel with the first central axis in either direction for providing a light source necessary for the digital image capturing apparatus. In a similar field of endeavor, Belliveau discloses a digital image capturing apparatus wherein the reflector module (figs. 3/5, ref. 230) comprises: a strobe (345) installed on a pedestal (225) and turnable with the pedestal (pg. 3, pgph. 33) allowing the strobe to be aimed substantially parallel (380) with the first central axis (351) in either direction for providing a light source necessary for the digital image capturing apparatus (pg. 4, pgph. 39). In light of the teaching of Belliveau, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a strobe installed on a pedestal in order to provide adequate projection of the image into the camera (photosensor) (Belliveau, pg. 3, pgph. 33).

For **claim 8**, Saari, as modified by Kuroda and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari and Belliveau do not expressly disclose a digital image capturing apparatus wherein the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. Examiner takes Official Notice that is well known in the art for the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. It would have been obvious to one of ordinary

Art Unit: 2622

skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Belliveau, with an acute angle formed by the second axis and the normal line of the reflector is 45 degrees in order to adequately focus the image signals into the image sensor via the lens.

For **claim 12**, Saari, as modified by Kuroda and Belliveau, inherently discloses a digital image capturing apparatus wherein both the first hole and the second hole are installed with at transparent material (Saari, col. 4, lines 47-64). Saari teaches that a close-up lens (36), mounted within the recess (38), is made of transparent plastic. Saari also teaches that other parts of the terminal are made of this material (col. 4, lines 59-64).

For **claim 13**, Saari, as modified by Kuroda and Belliveau, discloses a digital image capturing apparatus (fig. 1, ref. 10) being a *digital camera** or a digital camcorder. Saari teaches that the mobile communication terminal (10) has a photography mode, which allows the terminal to serve as a digital camera (col. 5, lines 35-47).

For **claim 23**, Saari, as modified by Kuroda and Belliveau, the digital image capturing wherein the second axis is inherently perpendicular to a shortest line connecting the front side of the housing to the rear side of the housing (Saari, figs. 8/10; col. 7, lines 1-36).

For **claim 24**, Saari, as modified by Kuroda and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari and Belliveau do not expressly disclose the digital image capturing apparatus wherein an angle formed by the second axis and a normal line of the reflector is 45 degrees, and an angle formed

Art Unit: 2622

by the second axis and a line along which the strobe is aimed is 90 degrees. Examiner takes Official Notice that is well known in the art for an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Belliveau, with an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees in order to adequately focus the image signals into the image sensor via the lens.

For **claim 27**, Saari, as modified by Kuroda and Belliveau, teaches the digital image capturing apparatus, wherein the second axis is (inherently) perpendicular to the first central axis. Please see Saari, fig. 8 and col. 7, lines 1-2.

For **claim 28**, Saari discloses (figs. 1-3 and 5) a digital image capturing apparatus (10) comprising:

a housing (12) having a front side and an opposite rear side (col. 4, lines 21-24 and 46-49), and inherently a first central axis (col. 4, lines 46-49);

a reflector module (116) installed in the housing for reflecting light input at the front side of the housing when the reflector module is in a first position and for reflecting light input at the rear side of the housing when the reflector module is in a second position (col. 4, lines 46-49; col. 6, lines 10-18), the reflector module comprising:

Art Unit: 2622

a pedestal turning on a second axis (86) on a second axis (col. 7, lines 22-36), the second axis being inherently perpendicular to the first central axis, the pedestal turning between the first and second positions; Please see Saari, fig. 8 and col. 7, lines 1-2.

a reflector (84) installed on the pedestal and turnable with the pedestal allowing for reflecting light from the front or rear side of the housing to the photosensor (col. 7, lines 22-36 and fig. 5); and

a photosensor (fig. 10, ref. 72) installed in the housing for sensing the light from the reflector module (col. 7, lines 22-27); and

an image generating module (inherently) installed in the housing for generating an image according to the light sensed by the photosensor (col. 5, lines 27-34 and 40-47). Saari inherently teaches an image generating module installed in the housing because in photography mode a captured image can be displayed on the screen (fig. 1, ref. 16).

Saari also teaches that image capturing apparatus (10) in fig. 2 has a camera assembly that is rotated to a position that captures the image of the user as the user holds the apparatus. However, Saari does not expressly teach a first central axis as a shortest line connecting the front side and the rear side. In a similar field of endeavor, Kuroda inherently teaches a first central axis (fig. 7) as a shortest line connecting the front side and the rear side (page 3, pgphs. 36-37). In light of the teaching of Kuroda, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a first central axis as a shortest line connecting the front side and the rear side in order to provide an apparatus that is capable of capturing images on a front side and a rear side of the apparatus (Kuroda, page 1, pgph. 8).

Art Unit: 2622

Additionally, Saari does not disclose a strobe installed on the pedestal and turnable with the pedestal allowing the strobe to be aimed substantially parallel with the first central axis in either direction for providing a light source necessary for the digital image capturing apparatus. In a similar field of endeavor, Belliveau discloses a digital image capturing apparatus wherein the reflector module (figs. 3/5, ref. 230) comprises: a strobe (345) installed on a pedestal (225) and turnable with the pedestal (pg. 3, pgph. 33) allowing the strobe to be aimed substantially parallel (380) with the first central axis (351) in either direction for providing a light source necessary for the digital image capturing apparatus (pg. 4, pgph. 39). In light of the teaching of Belliveau, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a strobe installed on a pedestal in order to provide adequate projection of the image into the camera (photosensor) (Belliveau, pg. 3, pgph. 33).

7. **Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Kuroda (U.S. Pat. App. Pub. 2003/0036365) and Belliveau (U.S. Pat. App. Pub. 2004/0114043) as applied to claim 1 above, and further in view of Motta et al. (U.S. Pat. 6,809,772).

For **claim 2**, Saari, as modified by Kuroda and Belliveau, discloses a digital image capturing apparatus further comprising (fig. 10) a lens (70) installed between the reflector module (84) and the photosensor (72) for focusing the light from the reflector module onto the photosensor (Saari, col. 7, lines 22-36). However, Saari does not disclose a lens group installed

Art Unit: 2622

between the reflector module (42) and the photosensor for focusing the light from the reflector module onto the photosensor.

In a similar field of endeavor, Motta discloses a digital image capturing apparatus (fig. 3, ref. 20) further comprising a lens group (25/26) (fig. 3; col. 3, lines 42-57). In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus by substituting the lens for a lens group, which provides a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

For **claim 3**, Saari, as modified by Kuroda and Belliveau, discloses a digital image capturing apparatus further comprising (Saari, figs. 5/10) a first lens (Saari, fig. 10, ref. 70) installed between the first hole (Saari, fig. 5, ref. 124) and the reflector module (Saari, fig. 10, ref. 84) for focusing the light from the first hole onto the photosensor (Saari, fig. 10, ref. 72), and a second lens (Saari, fig. 10, ref. 76) installed between the second hole (Saari, fig. 5, ref. 108) and the reflector module (Saari, fig. 10, ref. 84) for focusing the light from the second hole onto the photosensor (Saari, fig. 10, ref. 72). Please read Saari, col. 6, lines 8-24 and (col. 7, lines 22-36). Saari does not expressly disclose a first lens group installed between the first hole and the reflector module for focusing the light from the first hole onto the photosensor, and a second lens group installed between the second hole and the reflector module for focusing the light from the second hole onto the photosensor.

In a similar field of endeavor, Motta discloses a digital image capturing apparatus (fig. 3, ref. 20) further comprising a lens group (25/26) (fig. 3; col. 3, lines 42-57). In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 2622

invention was made to modify Saari's digital image capturing apparatus by substituting the lens for a lens group, which provides a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

8. **Claims 14-18, 20, and 25-26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al. (U.S. Pat. 6,532,035) in view of Motta et al. (U.S. Pat. 6,809,772) and Belliveau (U.S. Pat. App. Pub. 2004/0114043).

For **claim 14**, Saari discloses (figs. 1-3 and 5) a digital image capturing apparatus (10) comprising:

a housing (12) (col. 4, lines 21-24);

a lens (32) installed in the housing, moveable between a first position and a second position, for inputting light from the front of the housing in the first position and from the rear of the housing in the second position (col. 4, lines 41-46; col. 5, lines 27-47);

a reflector module (116) installed in the housing for reflecting the light input from the lens (col. 6, lines 10-18), the reflector module (fig. 10) comprising:

a pedestal turning (Saari, fig. 10, ref. 86) on a second axis (Saari, col. 7, lines 22-27);

a reflector (Saari, fig. 10, ref. 84) installed on a side of the pedestal for reflecting the light from the lens to the photosensor (Saari, col. 7, lines 22-27 and fig. 5).

a photosensor (fig. 10, ref. 72) installed in the housing for sensing the light from the reflector module (col. 7, lines 22-27); and

an image generating module installed in the housing for generating an image according to the light sensed by the photosensor. (col. 5, lines 27-34 and 40-47). Saari teaches an image

Art Unit: 2622

generating module installed in the housing because in photography mode a captured image can be displayed on the screen (fig. 1, ref. 16).

However, Saari does not expressly disclose a lens (36) installed on the housing, moveable between a first position and a second position. In a similar field of endeavor, Motta discloses a lens (25/26) installed on a housing, moveable between a first position and a second position (fig. 3; col. 3, lines 42-57). In light of the teaching of Motta, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a lens installed on the housing, moveable between a first position and a second position to provide a user with an adjustable focus option for producing clear sharp digital images (Motta, col. 3, lines 59-66).

Additionally, Saari and Motta do not expressly disclose a strobe installed on the pedestal and turnable with the pedestal allowing the strobe to be aimed substantially parallel with the first central axis in either direction for providing a light source necessary for the digital image capturing apparatus. In a similar field of endeavor, Belliveau discloses a digital image capturing apparatus wherein the reflector module (figs. 3/5, ref. 230) comprises: a strobe (345) installed on a pedestal (225) and turnable with the pedestal (pg. 3, pgph. 33) allowing the strobe to be aimed substantially parallel (380) with the first central axis (351) in either direction for providing a light source necessary for the digital image capturing apparatus (pg. 4, pgph. 39). In light of the teaching of Belliveau, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a strobe installed on a pedestal in order to provide adequate projection of the image into the camera (photosensor) (Belliveau, pg. 3, pgph. 33).

For **claim 15**, Saari, as modified by Motta and Belliveau, discloses a digital image capturing apparatus (Motta, fig. 3, ref. 20) further comprising a lens group (Motta, fig. 3, refs. 25/26) (Motta, fig. 3; col. 3, lines 42-66).

For **claim 16**, Saari, as modified by Motta and Belliveau, discloses a digital image capturing apparatus wherein the reflector module is installed in the housing. However, he does not expressly disclose a digital image capturing apparatus wherein the reflector module is *capable of*** moving along with the lens. Official Notice is taken in that it is well known in the art for a reflector module, in a digital image capturing apparatus, to *be capable of*** moving along with the lens. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saari's digital image capturing apparatus with a reflector module that is *capable of*** moving along with the lens to ensure that the image light can enter the image pickup element perpendicularly.

For **claim 18**, Saari, as modified by Motta and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari does not expressly disclose a digital image capturing apparatus, wherein the acute angle formed by the fourth axis and the normal line of the reflector is 45 degrees. Examiner takes Official Notice that is well known in the art for the acute angle formed by the second axis and the normal line of the reflector is 45 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Motta, with an acute angle formed by the second axis and the normal line of the

Art Unit: 2622

reflector is 45 degrees in order to adequately focus the image signals into the image sensor via the lens.

For **claim 20**, Saari as modified by Motta and Belliveau, discloses a digital image capturing apparatus (Saari, fig. 1, ref. 10) being *a digital camera** or a digital camcorder. Saari teaches that the mobile communication terminal (10) has a photography mode, which allows the terminal to serve as a digital camera (col. 5, lines 35-47).

For **claim 25**, Saari as modified by Motta and Belliveau, discloses the digital image capturing apparatus wherein the second axis is perpendicular to a shortest line connecting the front side of the housing to the rear side of the housing (Saari, figs. 8/10; col. 7, lines 1-36).

For **claim 26**, Saari as modified by Motta and Belliveau, teaches that the flat mirror (Saari, reflector) is pivoted to fold or bend the optical path as illustrated by the dash line in fig. 10 (Saari, col. 7, lines 28-30). As shown in Saari, fig. 10, the projection of the image (74) creates a right triangle with the mirror, which is traced out by the dotted lines. However, Saari, Motta, and Belliveau do not expressly disclose the digital image capturing apparatus wherein an angle formed by the second axis and a normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. Examiner takes Official Notice that is well known in the art for an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line along which the strobe is aimed is 90 degrees. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Saari's digital image capturing apparatus, as modified by Motta and Belliveau, with an angle formed by the second axis and the normal line of the reflector is 45 degrees, and an angle formed by the second axis and a line

Art Unit: 2622

along which the strobe is aimed is 90 degrees in order to adequately focus the image signals into the image sensor via the lens.

***Note:** The U.S. Patent and Trademark Office considers Applicant's "or" language to be anticipated by any reference containing one of the subsequent corresponding elements.

****Note:** The U.S. Patent and Trademark Office considers the Applicant's phrases such as "...a lens being *capable of* moving back and forth..." and "...a strobe installed on the pedestal and being *capable of* turned along with the pedestal..." as used in the claims broadens the scope of the claims. If a limitation is written with "capable of" language, a reference is deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable** of performing it.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316.

The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
April 3, 2006



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